

WHAT IS CLAIMED IS:

1. A touch fastener product for use as a mold insert, the product comprising;
a base having upper faces and lower faces and a central portion disposed
between lateral selvages, the central portion having a nominal thickness;

5 a magnetically attractable material secured to an upper face of the base;
and

a plurality of fastener elements extending in an array from the lower face
of the central portion of the base;

10 wherein the selvages are of a significantly lesser stiffness than the
stiffness of the central portion of the base, for flexure of the selvages to conform to a
mold surface as the base of the fastener product is drawn against the mold surface by
magnetic attraction of the magnetically attractable material.

2. The touch fastener of claim 1 wherein the touch fastener is formed of a
15 single contiguous resin.

3. The touch fastener of claim 1 wherein the central portion comprises a strip
of a first material supporting the fastener elements, and wherein the selvages are formed
of a second material of different composition than the first material.

20 4. The touch fastener of claim 3 the strip of first material having a surface
integrally formed with stems of the fastener elements.

5. The touch fastener of claim 3 wherein the selvages comprise regions of a
25 film secured to the upper face of the base.

6. The touch fastener of claim 5 wherein the film is secured by an adhesive.

7. The touch fastener of claim 6 wherein the adhesive is a polyamide hot melt.

8. The touch fastener of claim 5 wherein the film is a polyamide film.

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9. The touch fastener of claim 5 wherein the film has a softening point of between about 120 and 220 degrees Fahrenheit.

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10. The touch fastener of claim 5 wherein the film has a nominal thickness of less than about 0.020 inch.

11. The touch fastener of claim 10 wherein the film has a nominal thickness of less than about 0.010 inch.

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12. The touch fastener of claim 10 wherein the film has a flexural rigidity of about 1800 mg-cm.

13. The touch fastener of claim 5 wherein the film has a tensile stiffness of between about 1000 and about 3000 mg-cm.

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14. The touch fastener of claim 1 wherein the nominal thickness of the central portion of the base is between about 0.002 and 0.012 inch.

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15. The touch fastener of claim 1 wherein the nominal thickness of the central portion of the base is greater than a nominal thickness of the selvages.

16. The touch fastener of claim 1 wherein the magnetically attractable material comprises a metal wire.

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17. The touch fastener of claim 1 wherein the magnetically attractable material comprises a metal strip.

18. The touch fastener of claim 1 wherein the magnetically attractable material comprises a coating of magnetically attractable particles.

5 19. The touch fastener of claim 1 wherein the magnetically attractable material is encapsulated in a hot melt adhesive.

20. The touch fastener of claim 1 wherein each selvedge extends from the array at least about 2 millimeters.

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21. The touch fastener of claim 20 wherein each selvedge extends from the array at least about 4 millimeters.

22. The touch fastener of claim 1 wherein the selvedges are of a material
15 having a flexural rigidity of between about 1000 and 3000 mg-cm.

23. The touch fastener of claim 1 wherein selvedges are disposed on all sides of the central portion of the base.

20 24. The touch fastener of claim 1 wherein the central portion of the base comprises a molded resin.

25 25. The touch fastener of claim 1 wherein the fastener elements are male fastener elements.

26. The touch fastener of claim 20 wherein the male fastener elements comprise stems integrally molded with the central portion of the base, the central portion of the base comprising a molded resin.

30 27. The touch fastener of claim 26 wherein the male fastener elements have loop-engagable heads molded at distal ends of the stems.

28. The touch fastener of claim 27 wherein the male fastener elements are hook-shaped.

5 29. The touch fastener of claim 1 wherein the fastener elements are arranged in a density of at least about 100 per square inch across the array.

30. The touch fastener of claim 1, the fastener elements having an overall height, as measured normal to the base, of less than about 0.050 inch.

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31. A method of forming a seat foam bun comprising;
providing a mold cavity having a shape corresponding to the shape of the seat foam bun, wherein the mold cavity comprises a tapered trench having angled side walls;

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providing a touch fastener comprising a base, a plurality of fastener elements extending from a lower face of a central portion of the base in an array disposed between lateral selvages of the base;

positioning the touch fastener along the trench with the selvages deflected from their unloaded position to extend along the trench side walls in face-to-face contact; and

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delivering a foamable resin into the mold cavity to form a seat foam bun, the deflected selvages resisting intrusion of foamable resin into the array of fastener elements.

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32. The method of claim 31 wherein a lower face of the selvages has a substantially flat surface.

33. The method of claim 31 wherein the selvages are of a significantly lesser stiffness than a stiffness of the central portion of the base.

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34. The method of claim 31 wherein the trench has flat side walls extending at acute angles from a bottom surface of the trench.

5 35. The method of claim 31 wherein the trench has curved side walls, the selvages conforming to arcuate surfaces of the trench side walls.

36. The method of claim 31 wherein in an unloaded condition, the selvages and central portion of the base lie in a common plane, the distal edges of the selvages deflected out of the common plane with the fastener positioned along the trench.

10 37. The method of claim 36 the distal edges of the selvages contacting the trench side walls with the fastener positioned along the trench.

15 38. The method of claim 31 wherein the selvages are disposed around all sides of the central portion of the base.

39. The method of claim 31 wherein the selvages comprise a film.

20 40. The method of claim 39 wherein the film comprises a polyamide.

41. The method of claim 39 wherein the film is adhered to the base.

25 42. The method of claim 41 wherein the film is adhered to the base with a polyamide hot melt resin.

43. The method of claim 39 wherein the film has a softening point between 120 and 220 degrees Fahrenheit.

30 44. The method of claim 31 wherein the central portion of the base has a nominal thickness of between about 0.002 and 0.012 inch.

45. The method of claim 31 wherein the central portion of the base is thicker than the selvages.

5 46. The method of claim 31 wherein the touch fastener includes a magnetically attractable material.

47. The method of claim 46 wherein the magnetically attractable material is disposed on the upper face of the central portion of the base.

10 48. The method of claim 46 wherein the selvages are substantially free of magnetically attractable material.

49. The method of claim 46 wherein the trench overlays a magnet.

15 50. The method of claim 31 wherein the trench is elongated, and the fastener product is in strip form.

51. The method of claim 31 wherein the fastener elements are male fastener elements having stems integrally molded with a surface of the central portion of the base.

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52. The method of claim 31 wherein the foamable resin comprises a polyurethane resin.

25 53. A seat foam bun comprising;
a foam bun having a plateau disposed on a surface thereof, and
positioned on the plateau, a touch fastener comprising a base and a
plurality of fastener elements extending from a central portion of the base in an array
disposed between selvages of the base, wherein the selvages are embedded in the foam
and extend about opposite upper side edges of the plateau.

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54. The seat foam bun of claim 53 wherein the selvages are lateral selvages.

55. The seat foam bun of claim 53 wherein the plateau is an elongated plateau.

56. The seat foam bun of claim 53 wherein the selvages have a stiffness that
5 is substantially less than a stiffness of the central portion of the base.

57. The seat foam bun of claim 53 wherein central portion of the base
comprises a resin.

10 58. The seat foam bun of claim 53 wherein the selvages comprise a film.

59. The seat foam bun of claim 58 wherein the film has a softening point
between 120 and 220 degrees Fahrenheit.

15 60. The seat foam bun of claim 58 wherein the film is adhered to the central
portion of the base.

61. The seat foam bun of claim 53 wherein the central portion of the base is
thicker than the selvages.

20 62. The seat foam bun of claim 53 wherein the selvages extend laterally
beyond the central portion at least about 2 mm.

25 63. The seat form bun of claim 53 wherein the touch fastener includes a
magnetically attractable material.

64. The seat form bun of claim 53 wherein a magnetically attractable material
is disposed on the central portion of the base.

30 65. The seat foam bun of claim 53 wherein an exposed surface of the
selvages is substantially smooth.

66. The seat foam bun of claim 53 wherein the foam is a polyurethane foam.

67. A touch fastener comprising;

5 a sheet-form base comprising an upper face and a lower face;
a plurality of fastener elements disposed in an array on the lower face of
the sheet-form base;

a magnetically attractable material secured to the upper face of the sheet-
form base; and

10 a film disposed on the upper face of the base, wherein the film has a
softening point lower than about 220 degrees Fahrenheit.

68. The touch fastener of claim 67 wherein the softening point of the film is
lower than about 180 degrees Fahrenheit.

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69. The touch fastener of claim 68 wherein the softening point of the film is
lower than about 150 degrees Fahrenheit.

70. The touch fastener of claim 67 wherein the film is between about 0.002
20 and 0.010 inch thick.

71. The touch fastener of claim 67 wherein the film comprises a polyamide.

72. The touch fastener of claim 67 wherein the film is disposed over
25 substantially the entire upper face of the base.

73. The touch fastener of claim 67 further comprising a material secured to the
lower face of the base, wherein the material surrounds at least a portion of the array of
fastener elements.

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74. The touch fastener of claim 67 wherein the magnetically attractable material is a metal wire.

5 75. The touch fastener of claim 67 wherein the magnetically attractable material comprises a coating of metal particles.

76. The touch fastener of claim 67 wherein the magnetically attractable material is disposed in a strip extending substantially an entire length of the touch fastener and substantially centered in a width of the touch fastener.

10 77. The touch fastener of claim 67 further comprising selvages extending laterally beyond the array of fastener elements, wherein the selvages comprise a substantially flat surface configured to engage a flat surface of a mold in face-to-face contact.

15 78. The touch fastener of claim 77 wherein the selvages are integrally molded with the base.

20 79. The touch fastener of claim 77 wherein the selvages comprise a film disposed on the upper surface of the base.

80. A method of forming a seat foam bun, the method comprising;
providing a mold cavity having a shape corresponding to a desired shape of the foam bun;

25 positioning a touch fastener in the mold cavity, the touch fastener comprising a sheet-form base comprising an upper face and a lower face, a plurality of fastener elements disposed on the lower face of the sheet-form base, and a thermally-activatable resin exposed on the upper face of the sheet-form base; and

30 delivering a foamable resin into the mold cavity causing the resin to foam in an exothermic reaction, wherein the reaction generates sufficient heat to activate at least an outer surface of the activatable resin to adhere the touch fastener to the foam.

81. The method of claim 80 wherein the foamable resin comprises a polyurethane.

5 82. The method of claim 80 wherein the activatable resin is activated at a temperature between about 120 and 220 degrees Fahrenheit.

83. The method of claim 80 wherein the activatable resin comprises a film.

10 84. The method of claim 83 wherein the film comprises a polyamide film.

85. The method of claim 80 wherein the resin is disposed over substantially the entire upper face of the base.

15 86. The method of claim 80 wherein the touch fastener comprises a magnetically attractable material disposed on the upper face of the base.

87. The method of claim 86 wherein the magnetically attractable material is a metal wire laterally centered over the fastener elements.

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88. The method of claim 80 wherein the touch fastener comprises a material disposed on the lower face of the base, the material surrounding the plurality of fastener elements and forming a gasket between the base and a surface of the mold cavity.

25 89. The method of claim 80 wherein the touch fastener comprises selvages extending laterally beyond the plurality of fastener elements.

90. The method of claim 89 wherein the selvages extend longitudinally beyond the plurality of fastener elements.

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91. The method of claim 89 wherein the selvages are integrally molded with the base.

5 92. The method of claim 89 wherein the selvages comprise a film disposed on the upper surface of the base.

93. The method of claim 89 wherein the selvages comprise a smooth surface that engages a mold surface in face-to-face contact.

10 94. A touch fastener for use as a mold insert in which a molded surface can be formed, comprising;

a sheet-form base comprising an upper face and a lower face;

a plurality of fastener elements extending from the lower face of the sheet-form base disposed in an array; and

15 a magnetically attractable material secured to the sheet-form base;

wherein a portion of the sheet-form base extends laterally beyond the array of male fastener elements and forms selvages on opposite edges of the sheet-form base, the selvages being free of the magnetically attractable material, and having smooth, planar lower faces for engaging a flat mold surface in face-to-face contact on either side of the array to form a seal on either side of the array.

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95. The touch fastener of claim 94 wherein the fastener elements are male fastener elements having stems integrally molded to the lower face of the sheet-form base.

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96. The touch fastener of claim 94 wherein the magnetically attractable material comprises a metal wire.

97. The touch fastener of claim 94 wherein each selvedge extends from the array at least about 2 mm.

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98. The touch fastener of claim 94 wherein the width of the array of fastener elements is between about 2 mm and 10 mm.

5 99. The touch fastener of claim 94 wherein the length of the touch fastener is at least about 200 mm.

100. The touch fastener of claim 94 further comprising a material disposed on the upper face of the sheet-form base.

10 101. The touch fastener of claim 94 further comprising a film disposed on the upper surface of the sheet-form base, wherein the softening point of the film is between about 140 and about 220 degrees Fahrenheit.

15 102. A method of forming a seat form bun, the method comprising;
providing a mold cavity having a shape corresponding to a desired shape of the foam bun and defining a trench overlying a magnet;
providing a touch fastener mold insert, the insert comprising a sheet-form base comprising an upper face and a lower face, a plurality of fastener elements extending from the lower face of the sheet-form base disposed in an array; and a magnetically
20 attractable material secured to the sheet-form base, a portion of the sheet-form base extending laterally beyond the array of male fastener elements and forming selvages on opposite edges of the sheet-form base, the selvages having smooth, planar lower faces;
positioning the insert in the trench to establish a magnetic attraction between the attractable material and the magnet, thereby creating area contact pressure between the
25 smooth, lower faces of the selvages and mold surfaces on either side of the trench to form a seal; and
delivering a foamable resin into the mold cavity to form a seat bun.

30 103. The method of claim 102 wherein the fastener elements are male fastener elements having stems integrally molded to the lower face of the sheet-form base.

104. The method of claim 102 wherein the foam is a polyurethane foam.

105. The method of claim 102 wherein the magnetically attractable material is encapsulated in a polyamide hot melt composition.

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106. The method of claim 102 wherein the magnetically attractable material comprises a metal wire.

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107. The method of claim 102 wherein the magnetically attractable material extends over substantially the entire length of the touch fastener and is substantially centered over a width of the touch fastener.

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108. The method of claim 102 wherein the magnetically attractable material comprises a coating of metal particles.

109. The method of claim 108 wherein the coating of metal particles is substantially centered over a width of the touch fastener.

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110. The method of claim 102 wherein each selvedge extends from the array at least about 2 mm.

111. The method of claim 110 wherein each selvedge extends from the array at least about 4 mm.

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112. The method of claim 102 wherein the width of the array of fastener elements is between about 2 mm and 10 mm.

113. The method of claim 102 wherein the length of the touch fastener is at least about 200 mm.

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114. The method of claim 102 wherein sheet-form base is between about 0.002 inches and 0.012 inches thick.

5 115. The method of claim 102 further comprising a material disposed on the upper face of the sheet-form base.

116. The method of claim 115 wherein the material is a woven material.

10 117. The method of claim 102 further comprising a film disposed on the upper surface of the sheet-form base, wherein the softening point of the film is between about 140 and about 220 degrees Fahrenheit.

118. The method of claim 102 wherein the male fastener elements comprise molded hooks or mushroom shapes.

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